

## CARBON UNDERWAY MEASUREMENTS: ATLANTIC

International Ocean Carbon Coordination Project ([www.ioccp.org](http://www.ioccp.org))

Last updated: November 2007.

Track/Ship name	Dates of operation	Area	Brief description (ship track)	Frequency	PI	Nation
<b>Atlantic Ocean</b>						
Ams-Bergen	2005-2009	North Sea	Amsterdam-Bergen; collaboration Norway-Netherlands in CarboOcean	weekly	A. M. Omar T. Johannessen	Norway
Finnpartner Finmaid	2003-	Baltic Sea	Leubeck-Helsinki	150/year	B. Schneider	Germany
Bjarni Saemundsson	2006 and 2007	Atlantic	Repeat hydrographic sections across the Iceland shelf and into open Atlantic	4/year	J. Olafsson	Iceland
Pride of Bilbao	2005-	Atlantic	Portsmouth (UK)-Spain	Twice per week except January	D. Hydes C. Bargeron	UK
A. Companion	2006-	Atlantic	Liverpool - Halifax	2 per 5 weeks	A. Körtzinger D. Wallace	Germany
Skogafoss	2005-	Atlantic	Charleston-Reykjavik	12/year	R. Wanninkhof Joint project France/Iceland	USA/France
Explorer of the Seas	2004-	Atlantic	Caribbean (winter) Bermuda-Newark-Caribbean (summer)	Weekly	R. Wanninkhof	USA
Santa Lucia /Santa Maria	2003-2009	Atlantic	Portsmouth (UK) - Windward Islands	35 day round trips	U. Schuster	UK
Thalassa (OVIDE)	2002-2010	Atlantic	Iberian Peninsula - Greenland	2 years	A. Rios	Spain
Oleander	2006-	NW Atlantic	Newark-Bermuda	2/week	N. Bates	USA
MN Colibri (AX20)	2006-	Atlantic	France - French Guiana	~6/ year	N. Lefèvre	France
Monte Olivia (AX11)	2007-	Atlantic	France-Brazil	~6/ year	N. Lefèvre	France

R/V Poseidon/ Merian	2007 and 2008	Mauritanian upwelling	Las Palmas-Las Palmas	1/year	A. Körtzinger	Germany
Las Palmas	2005-	Atlantic	Cartagena - Rio - Ushuaia	2/year	A. Rios	Spain
Quima VOS line	2005	Atlantic	UK - Cape Town	Monthly	M. Gonzalez	Spain
IRIZAR Project	2007-	Atlantic	Buenos Aires - Antarctica	2-4 times per year	C. Goyet (joint project with Argentina)	France
Drake Passage Time series/ LM Gould	2005-	Atlantic	Ponte Arenas - Palmer	20/year	T. Takahashi C. Sweeney	USA
SA Agulhas lines	Dec 2007-	Atlantic / Southern	Cape Town – Neumayer (SANAE): Southwards: early Dec, return Feb with additional sampling between Neumayer and S.Sandwich Is. Cape Town – Marion Is.: southwards march, return April, including an extended southward leg to 55 S Cape Town – Gough Is.: Southwards in Sept, return October, additional leg to 55 S.	Dec, Feb, March, Apr, Sept, Oct (repeated annually)	P. Monteiro	South Africa
<b>Shelf/coastal lines</b>						
Plymouth Quest	2005-2009	Atlantic (shelf)	Weekly (L4) & monthly (E1) transects in Western English Channel, other variable routes	Weekly/Monthly & other variable	N. Hardman-Mountford	UK
Prince Madog	2006-2009	Atlantic (shelf)	Regular transects between Hollyhead and Dublin, regular Liverpool Bay, other variable routes in Irish Sea	Approx. monthly & other variable	N. Hardman-Mountford	UK
ICCABA	2007	Atlantic Mediterranean	Canary Islands - Italy		M. Gonzalez	Spain
Mytilus	2006-2007	Atlantic	Coastal Zone - Gulf of Cádiz	4/year	J. Forja	Spain
RV Belgica	2001-2010	Atlantic	Continuous pCO <sub>2</sub> measurements on all the cruises of the RV Belgica in the Southern Bight of the North Sea	Weekly to monthly	A. Borges	Belgium

Irregular						
RV Ron Brown	1997-	Atlantic/ E Pacific	Random	Random	R. Wanninkhof	USA
R/V Atlantic Explorer	2006-	NW Atlantic	Bermuda	Random	N. Bates	USA
Palmer	2000-	Pacific / Southern Ocean	Various	Random	T. Takahashi	USA
CARIOCA buoys	2005-2009	Atlantic	Southern Ocean	Continuous	J. Boutin L. Merlivat	France
No longer running						
RMS St Helena	1993-95	Atlantic	UK- Cape Town	Every two months	N. Lefèvre	UK
Prince of Seas	Jun 1994- Jun 1995	Atlantic	UK - Jamaica	Once per month	A. Watson	UK
Atlantic Meridional Transect	1995, 1996 (2 x), 1998	Atlantic	UK - Falkland Islands (pCO <sub>2</sub> for AMT-1, -2, -3, -7)	4 crossings	N. Lefèvre	UK
Atlantic Meridional Transect	2003-2004	Atlantic	UK - Falkland Islands (some, discrete TCO <sub>2</sub> , T <sub>Aik</sub> for AMT-12, -13, -14)	3 crossings	Andrew Hind	UK
Atlantic Meridional Transect	2004-2005	Atlantic	UK - South Africa (pCO <sub>2</sub> for AMT-15 (part), -16, -17; AMT-15 also some discrete TCO <sub>2</sub> , T <sub>Aik</sub> )	3 crossings	D.C.E. Bakker A. Hind	UK
Xue Long (Snow Dragon)	2007-	Arctic/ Antarctic (Pacific)	Shanghai- PR China- Antarctic and Arctic oceans	Annual	R. Wanninkhof W.-J. Cai L. Chen (3rd inst PRC) Joint project w PRC	USA

Polarstern	2007-	both polar oceans and Atlantic transects to/from Antarctic	autonomous pCO <sub>2</sub> system (General Oceanics) should already have been completed and delivered. For installation and continuous operation at Polarstern.	Annual	M. Hoppema collaborative effort with Royal NIOZ	Germany/ Netherlands
<b>Irregular</b>						
Turmoil	2007	Global		Random	T. Takahashi	USA
RRS Discovery	2005 2006-2009	Global	One AMT route in 2005. Variable (pCO <sub>2</sub> collected on all research cruises)	Variable	Nick Hardman-Mountford	UK
RRS James Cook	2007-2009	Global	Variable (pCO <sub>2</sub> to be collected on all research cruises)	Variable	N. Hardman-Mountford	UK
R/V Langseth	2007	Global		Random	T. Takahashi	USA